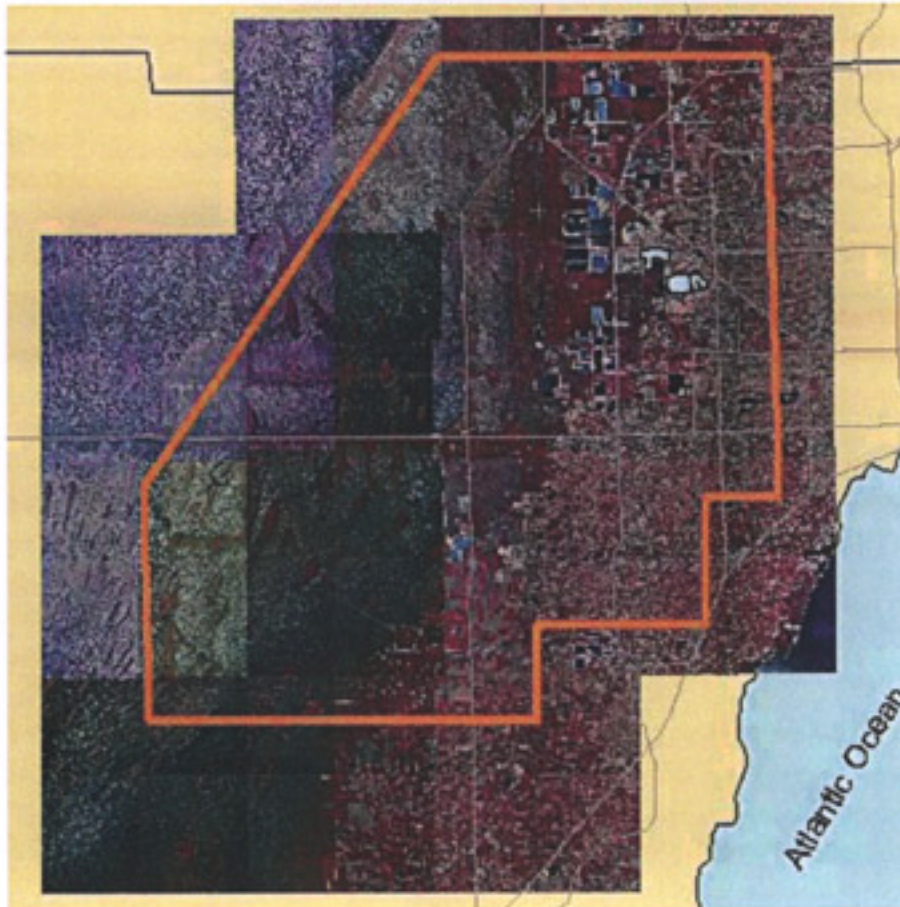


Data Acquisition, Review, and Analysis for the Lake Belt and Surrounding Areas

Miami-Dade County, Florida



by

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South Florida Water Management District
West Palm Beach, Florida 33406

December 26, 2001

DLBS-3

LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FGS

WELL NUMBER: W-17788

COUNTY - DADE

TOTAL DEPTH: 181 FT.

LOCATION: T.54S R.39E S.23 DD

SAMPLES - NONE

LAT = 25D 43M 09S

LON = 80D 29M 47S

COMPLETION DATE: 05/22/96

ELEVATION: 5 FT

OTHER TYPES OF LOGS AVAILABLE - NONE

OWNER/DRILLER: SOUTH FLORIDA WATER MANAGEMENT DISTRICT

WORKED BY: CINDY FISCHLER. COMPLETED OCT. 1999. SFWMD #025080017

025-14 DLBS-3 SOUTH MIAMI N.W. FLA PLANAR X 665810 STATE COORD. Y 503916

ACTUAL FOOTAGE IS LESS THAN STATED INTERVAL.

0. -177. 121PCPC PLIOCENE-PLEISTOCENE

177. - 122HTRN HAWTHORN GROUP

- 0 - 2 LIMESTONE; YELLOWISH GRAY TO VERY LIGHT ORANGE
15% POROSITY: INTERGRANULAR, MOLDIC
GRAIN TYPE: CALCILUTITE, SKELETAL, BIOGENIC
75% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO GRAVEL
MODERATE INDURATION
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX
ACCESSORY MINERALS: SPAR-10%, ORGANICS- 5%
OTHER FEATURES: MEDIUM RECRYSTALLIZATION
FOSSILS: MOLLUSKS, BENTHIC FORAMINIFERA
PLANT REMAINS, GASTROPOD AND CLAM MOLDS. POORLY WASHED.
- 2 - 4 LIMESTONE; YELLOWISH GRAY TO VERY LIGHT ORANGE
15% POROSITY: INTERGRANULAR, MOLDIC
GRAIN TYPE: CALCILUTITE, SKELETAL, BIOGENIC
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO GRAVEL
MODERATE INDURATION
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX
ACCESSORY MINERALS: SPAR-15%, ORGANICS- 3%
OTHER FEATURES: MEDIUM RECRYSTALLIZATION
FOSSILS: MOLLUSKS
SOME OF THE FRAGMENTS HAVE AN OOLITIC FABRIC. POORLY WASHED.
- 4 - 6 LIMESTONE; YELLOWISH GRAY
15% POROSITY: INTERGRANULAR, MOLDIC
GRAIN TYPE: CALCILUTITE, SKELETAL CAST, OOLITE
80% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO GRAVEL
MODERATE INDURATION
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX
ACCESSORY MINERALS: SPAR-10%, ORGANICS-10%
QUARTZ SAND-10%
OTHER FEATURES: MEDIUM RECRYSTALLIZATION
FOSSILS: MOLLUSKS
POORLY WASHED. GASTROPOD AND CLAM CAST AND MOLDS. LARGE

VOIDS. SOME IRON STAINING. SAND FILLING SOME OF THE VOID.
LITHOLOGY VARIES: OOLITIC FABRIC, SOMETIMES CHALKY; AND
HIGHLY MOLDIC WITH CALCITE STREAKS; AND A MICRITE.

- 6 - 10 LIMESTONE; YELLOWISH GRAY
15% POROSITY: INTERGRANULAR, MOLDIC
GRAIN TYPE: CALCILUTITE, SKELETAL, OOLITE
80% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO GRAVEL
MODERATE INDURATION
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX
OTHER FEATURES: MEDIUM RECRYSTALLIZATION
FOSSILS: BRYOZOA
POORLY WASHED. LARGE DISSOLUTION VOID, PROBABLY BRYOZOAN
MOLDS. OOLITIC FABRIC SOFT AND CHALKY IN PLACES. CLAM AND
GASTROPOD CAST.
- 10 - 15 LIMESTONE; YELLOWISH GRAY TO MODERATE LIGHT GRAY
15% POROSITY: INTERGRANULAR, MOLDIC, PIN POINT VUGS
GRAIN TYPE: CALCILUTITE, CRYSTALS, SKELETAL CAST
75% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO GRAVEL
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
SEDIMENTARY STRUCTURES: MOTTLED
ACCESSORY MINERALS: SPAR-15%, QUARTZ SAND- 5%
OTHER FEATURES: MEDIUM RECRYSTALLIZATION
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, BRYOZOA
CLAM AND GASTROPOD CAST. DISSOLUTION VOID SOME COATED WITH
DRUSY CALCITE. MOTTLED LIMESTONE. FOSSILIFEROUS OOLITIC
FABRIC VARIES FROM CHALKY TO MEDIUM TO HIGH
RECRYSTALLIZATION. SOME IRON STAINING. SAND INCREASES WITH
DEPTH. SOME OF THE LIMESTONE HAS A REDDISH COLOR (IN THE
CHALKY SOFT LIMESTONE).
- 15 - 18 WACKESTONE; YELLOWISH GRAY
15% POROSITY: INTERGRANULAR, MOLDIC, PIN POINT VUGS
GRAIN TYPE: CALCILUTITE, SKELETAL CAST, CRYSTALS
75% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO GRAVEL
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
SEDIMENTARY STRUCTURES: MOTTLED
ACCESSORY MINERALS: QUARTZ SAND- 5%, SPAR-20%
OTHER FEATURES: MEDIUM RECRYSTALLIZATION
FOSSILS: BENTHIC FORAMINIFERA, WORM TRACES, MILIOLIDS
CLAM AND GASTROPOD CAST. IRON STAINING.
- 18 - 20 LIMESTONE; YELLOWISH GRAY
15% POROSITY: INTERGRANULAR, MOLDIC, VUGULAR
GRAIN TYPE: CALCILUTITE, SKELETAL CAST, CRYSTALS
50% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO GRAVEL
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT

ACCESSORY MINERALS: SPAR-10%, QUARTZ SAND- 5%
ABUNDANT GASTROPOD CAST AND MOLDS. SOLUTION VOIDS. DRUSY
CALCITE COATING ON SOME PIECES.

- 20 - 22 LIMESTONE; YELLOWISH GRAY
15% POROSITY: INTERGRANULAR, MOLDIC
POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: CALCILUTITE, SKELTAL CAST, CRYSTALS
90% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO GRAVEL
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
ACCESSORY MINERALS: SPAR-10%
OTHER FEATURES: MEDIUM RECRYSTALLIZATION
FOSSILS: BENTHIC FORAMINIFERA
ABUNDANT SMALL RECRYSTALLIZED GASTROPOD CAST AND
RECRYSTALLIZED SHELL FRAGMENTS. SOLUTION VOIDS. PISOLITIC
MEDIUM TO HIGH RECRYSTALLIZATION.
- 22 - 24 LIMESTONE; YELLOWISH GRAY
10% POROSITY: INTERGRANULAR, PIN POINT VUGS, MOLDIC
GRAIN TYPE: CALCILUTITE, SKELTAL CAST, CRYSTALS
50% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO GRAVEL
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
ACCESSORY MINERALS: SPAR-20%
OTHER FEATURES: HIGH RECRYSTALLIZATION
FOSSILS: BRYOZOA
SMALL FRAGMENTS OF LIMESTONE MANY COATED WITH DRUSY
CALCITE. CLAM CAST.
- 24 - 25 LIMESTONE; YELLOWISH GRAY
10% POROSITY: INTERGRANULAR, MOLDIC, PIN POINT VUGS
GRAIN TYPE: CALCILUTITE, SKELTAL CAST, CRYSTALS
60% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO GRAVEL
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
ACCESSORY MINERALS: SPAR-20%
OTHER FEATURES: MEDIUM RECRYSTALLIZATION
FOSSILS: MOLLUSKS
MANY OF THE ALLOCHEMS ARE RECRYSTALLIZED. CLAM AND
GASTROPOD CAST AND MOLDS.
- 25 - 27 MUDSTONE; WHITE TO YELLOWISH GRAY
8% POROSITY: INTERGRANULAR, PIN POINT VUGS
GRAIN TYPE: CALCILUTITE, BIOGENIC, CRYSTALS
10% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
ACCESSORY MINERALS: SPAR-10%, QUARTZ SAND- 2%
OTHER FEATURES: LOW RECRYSTALLIZATION
FEW GASTROPOD CAST. MICRITE WITH SMALL AMOUNT OF DRUSY

CALCITE. SOLUTION VOIDS. SMALL AMOUNT OF SANDY LIMESTONE.

- 27 - 35 LIMESTONE; WHITE TO YELLOWISH GRAY
10% POROSITY: INTERGRANULAR, VUGULAR, MOLDIC
GRAIN TYPE: CALCILUTITE, BIOGENIC, CRYSTALS
40% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO GRAVEL
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
ACCESSORY MINERALS: SPAR- 8%, QUARTZ SAND-20%
OTHER FEATURES: LOW RECRYSTALLIZATION
FOSSILS: CORAL, BRYOZOA
SANDY MOLDIC LIMESTONE. MEDIUM RECRYSTALLIZATION. LARGE
DISSOLUTION VOIDS FROM BRYOZOA AND CORAL MOLDS. SOME LARGE
RECRYSTALLIZED SHELL FRAGMENTS. SPARRY CALCITE INCREASES TO
ABOUT 25%.
- 35 - 43 LIMESTONE; VERY LIGHT ORANGE
10% POROSITY: INTERGRANULAR, PIN POINT VUGS, FRACTURE
GRAIN TYPE: CALCILUTITE, CRYSTALS
40% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO GRAVEL
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
ACCESSORY MINERALS: SPAR-20%
OTHER FEATURES: MEDIUM RECRYSTALLIZATION
MANY SMALL FRACTURES FILLED WITH SPAR. MANY OF THE
ALLOCHEMICALS HAVE BEEN RECRYSTALLIZED. CLAM MOLDS AND CAST.
- 43 - 46 LIMESTONE; YELLOWISH GRAY
15% POROSITY: INTERGRANULAR, MOLDIC
GRAIN TYPE: CALCILUTITE, SKELETAL, SKELETAL CAST
60% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO GRAVEL
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
ACCESSORY MINERALS: QUARTZ SAND-40%, SPAR-15%, SHELL- 5%
OTHER FEATURES: MEDIUM RECRYSTALLIZATION
FOSSILS: MOLLUSKS, MILIOLIDS, BENTHIC FORAMINIFERA
BARNACLES
VERY SANDY LIMESTONE. CLAM AND GASTROPOD CAST AND MOLDS.
- 46 - 48 SANDSTONE; YELLOWISH GRAY
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE
ROUNDNESS: SUB-ANGULAR TO ROUNDED; LOW SPHERICITY
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
ACCESSORY MINERALS: SPAR-35%, SHELL-20%
OTHER FEATURES: MEDIUM RECRYSTALLIZATION, CALCAREOUS
FOSSILS: BARNACLES, ALGAE, BRYOZOA, MOLLUSKS
APPEARS TO BE SHELLY, SANDY CONCRETIONS.
- 48 - 58 SAND; LIGHT OLIVE GRAY
15% POROSITY: INTERGRANULAR
GRAIN SIZE: MEDIUM; RANGE: FINE TO GRAVEL; LOW SPHERICITY

POOR INDURATION
CEMENT TYPE(S): CLAY MATRIX
ACCESSORY MINERALS: SHELL-35%, SILT-15%
PHOSPHATIC SAND- 3%
FOSSILS: BARNACLES, MOLLUSKS
GASTROPODS. VERY POORLY INDURATED. VERY FINE TO SILT SIZE
PHOSPHATE.

- 58 - 87 SHELL BED; YELLOWISH GRAY TO LIGHT GRAY
20% POROSITY: INTERGRANULAR; UNCONSOLIDATED
ACCESSORY MINERALS: QUARTZ SAND- 5%
FOSSILS: MOLLUSKS, BARNACLES, ECHINOID, BRYOZOA
SHARKS TEETH
GASTROPODS. TRACE OF PHOSPHATE.
- 87 - 117 LIMESTONE; YELLOWISH GRAY
20% POROSITY: INTERGRANULAR, MOLDIC
GRAIN TYPE: CALCILUTITE, SKELETAL, PELLET
85% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO GRAVEL
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
ACCESSORY MINERALS: QUARTZ SAND-40%, SHELL-25%
PHOSPHATIC SAND- 3%
OTHER FEATURES: MEDIUM RECRYSTALLIZATION
FOSSILS: MOLLUSKS, BARNACLES, BRYOZOA
GASTROPOD AND CLAM CAST AND MOLDS. LITHOLOGY VARIES: VERY
SHELLY, SANDY LIMESTONE TO A VERY SHELLY, CALCAREOUS
SANDSTONE. SHELL MATERIAL INCREASES WITH DEPTH TO ABOUT
40%.
- 117 - 120 SHELL BED; YELLOWISH GRAY
15% POROSITY: INTERGRANULAR; UNCONSOLIDATED
ACCESSORY MINERALS: QUARTZ SAND-35%, SILT-10%
PHOSPHATIC SAND- 3%
FOSSILS: MOLLUSKS, BRYOZOA, ECHINOID, BARNACLES
CALCAREOUS SANDSTONE AND SANDY LIMESTONE FRAGMENTS COULD BE
CAVINGS. <5% QUARTZ GRAVEL.
- 120 - 125 LIMESTONE; LIGHT GRAY
8% POROSITY: INTERGRANULAR, MOLDIC
GRAIN TYPE: SKELETAL, SKELETAL CAST, CALCILUTITE
60% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO GRAVEL
GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: SHELL-25%, QUARTZ SAND-25%
OTHER FEATURES: MEDIUM RECRYSTALLIZATION
FOSSILS: MOLLUSKS, BRYOZOA, BARNACLES
MEDIUM TO HIGH RECRYSTALLIZATION. SANDY, SHELLY, MOLDIC
MICRITE. SLIGHTLY DOLOMITIC. MANY OF THE SHELL FRAGMENTS
ARE RECRYSTALLIZED.
- 125 - 140 LIMESTONE; YELLOWISH GRAY
20% POROSITY: INTERGRANULAR, MOLDIC

GRAIN TYPE: SKELTAL CAST, PELLET, SKELETAL
80% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO GRAVEL
POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: SHELL-40%, QUARTZ SAND-35%
PHOSPHATIC SAND- 5%
OTHER FEATURES: MEDIUM RECRYSTALLIZATION
FOSSILS: MOLLUSKS, BARNACLES, ECHINOID, WORM TRACES
BRYOZOA
PHOSPHATE IS VERY FINE GRAINED. VARIES TO SHELLY CALCAREOUS
SANDSTONE.

140 - 155 SHELL BED; YELLOWISH GRAY TO LIGHT GRAY
20% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY
UNCONSOLIDATED
FOSSILS: MOLLUSKS, BARNACLES, ECHINOID, BRYOZOA, CORAL
GASTROPODS. ABOUT 30-40% OF INTERVAL IS FRAGMENTS OF
LIMESTONE AS ABOVE. MAYBE CARVINGS OR SHIFTING. THIS IS THE
LAST BOX OF CORE FOR THIS WELL AND IT IS ONLY PARTIALLY
FILLED. SINCE MOST OF THIS SECTION IS UNCONSOLIDATED OR
FRAGMENTED MUCH SHIFTING HAS TAKEN PLACE WHICH COULD
ACCOUNT FOR THE LIMESTONE IN THE SHELL BED. THIS BOX
CONTAINS 135-181 FT.

155 - 177 SAND; YELLOWISH GRAY
20% POROSITY: INTERGRANULAR
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM; LOW SPHERICITY
POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: PHOSPHATIC SAND- 3%, SHELL-10%
FOSSILS: MOLLUSKS, BARNACLES, ECHINOID
WELL SORTED SAND. POORLY INDURATED WITH CALCAREOUS MUD.
TRACE OF MICA. PHOSPHATE IS FINE GRAINED. SAND BECOMES
SLIGHTLY FINER WITH DEPTH.

177 - 181 SILT; LIGHT OLIVE GRAY
POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX
ACCESSORY MINERALS: QUARTZ SAND- 5%, MICA- 3%
PHOSPHATIC SAND- 5%
OTHER FEATURES: FROSTED, LOW RECRYSTALLIZATION
FOSSILS: SPICULES, BENTHIC FORAMINIFERA
ABUNDANT SPICULES. VERY FINE GRAINED PHOSPHATE.

181 TOTAL DEPTH

DLBS-4

LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FGS

WELL NUMBER: W-17789

COUNTY - DADE

TOTAL DEPTH: 103 FT.

LOCATION: T.52S R.39E S.25 CC

16 SAMPLES FROM 0 TO 103 FT.

LAT = 25D 53M 31S

LON = 80D 24M 15S

COMPLETION DATE: 06/06/96

ELEVATION: 5 FT

OTHER TYPES OF LOGS AVAILABLE - NONE

OWNER/DRILLER: OWNER UNKNOWN/DRILLER: SFWMD- WELL NAME DLBS-4, ID# 025-15

WORKED BY: HOLLY K. WILLIAMS, FLORIDA GEOLOGICAL SURVEY
SAMPLES ARE CORE

- 0 - 87. 121PCPC PLEISTOCENE-PLIOCENE
87. - . 122HTRN HAWTHORN GROUP
87. - . 122PCRV PEACE RIVER FM.
- 0 - 3 WACKESTONE; LIGHT GRAY TO BROWNISH GRAY
10% POROSITY: INTRAGRANULAR, INTERGRANULAR, MOLDIC
GRAIN TYPE: BIOGENIC, CALCILUTITE
50% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO MEDIUM
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: SPAR-10%
OTHER FEATURES: MEDIUM RECRYSTALLIZATION
FOSSILS: MOLLUSKS
ALSO PRESENT IN INTERVAL, QUARTZ SAND, FINE TO VERY COARSE
MODE: MEDIUM-20% (SURROUNDING GROUND UP PIECES OF
LIMESTONE), ORGANICS-15%, MUD AND CLAY-20% (0-1'), MUD AND
CLAY-10% (1-3'). LIMESTONE CONTAINS MOLLUSKS REPLACED WITH
SPARRY CALCITE.
- 3 - 7.3 CALCILUTITE; DARK YELLOWISH BROWN
POROSITY: INTRAGRANULAR, INTERGRANULAR
POOR INDURATION
CEMENT TYPE(S): CLAY MATRIX
ACCESSORY MINERALS: LIMESTONE-30%, QUARTZ SAND-20%
CLAY-15%
LIMESTONE IN THE MUD IS AS ABOVE. SAND, ALSO PRESENT IN THE
MUD, IS FINE TO VERY COARSE, MODE: MEDIUM.
- 7.3- 7.6 WACKESTONE; YELLOWISH GRAY
10% POROSITY: INTRAGRANULAR, INTERGRANULAR, MOLDIC
GRAIN TYPE: BIOGENIC, CALCILUTITE
30% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: CRYPTOCRYSTALLINE
RANGE: CRYPTOCRYSTALLINE TO MEDIUM; GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: SPAR-10%
OTHER FEATURES: MEDIUM RECRYSTALLIZATION
LIMESTONE CONTAINS MOLLUSKS REPLACED WITH SPARRY CALCITE.

- 7.6- 8 CALCILUTITE; YELLOWISH GRAY TO VERY LIGHT GRAY
 POROSITY: INTRAGRANULAR, INTERGRANULAR
 POOR INDURATION
 CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX
 ACCESSORY MINERALS: QUARTZ SAND-15%, CLAY-10%
 SAND IN MUD IS FINE TO VERY COARSE, MODE: MEDIUM.
- 8 - 9 WACKESTONE; YELLOWISH GRAY
 POROSITY: INTRAGRANULAR, MOLDIC, VUGULAR
 GRAIN TYPE: BIOGENIC, CALCILUTITE
 20% ALLOCHEMICAL CONSTITUENTS
 GRAIN SIZE: CRYPTOCRYSTALLINE
 RANGE: CRYPTOCRYSTALLINE TO MEDIUM; MODERATE INDURATION
 CEMENT TYPE(S): CALCILUTITE MATRIX
 ACCESSORY MINERALS: QUARTZ SAND-15%, SPARRY-10%
 OTHER FEATURES: MEDIUM RECRYSTALLIZATION
 FOSSILS: MOLLUSKS
 MOLLUSKS ARE REPLACED WITH SPARRY CALCITE, MOLDS AND VOID
 SPACES ARE FILLED IN OR PARTIALLY FILLED WITH SPARRY
 CALCITE. ~5% OF THE ROCK EXHIBITS SOLUTION FEATURES
 (VOIDS) 1-2CM DIAMETER.
- 9 - 12 MUDSTONE; VERY LIGHT ORANGE TO GRAYISH ORANGE
 25% POROSITY: INTRAGRANULAR, MOLDIC, VUGULAR
 GRAIN TYPE: BIOGENIC, CRYSTALS, OOLITE
 10% ALLOCHEMICAL CONSTITUENTS
 GRAIN SIZE: CRYPTOCRYSTALLINE
 RANGE: CRYPTOCRYSTALLINE TO MEDIUM; GOOD INDURATION
 CEMENT TYPE(S): SPARRY CALCITE CEMENT
 OTHER FEATURES: HIGH RECRYSTALLIZATION
 FOSSILS: FOSSIL MOLDS
 OOMOLDIC POROSITY, SOME VERY VUGGY/MOLDIC ZONES TREND AT A
 SHALLOW TO MODERATE ANGLE FROM HORIZONTAL.
- 12 - 13 PACKSTONE; YELLOWISH GRAY
 20% POROSITY: INTRAGRANULAR, MOLDIC, VUGULAR
 GRAIN TYPE: OOLITE, BIOGENIC, CRYSTALS
 75% ALLOCHEMICAL CONSTITUENTS
 GRAIN SIZE: MEDIUM; RANGE: CRYPTOCRYSTALLINE TO COARSE
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
 ACCESSORY MINERALS: QUARTZ SAND-05%
 OTHER FEATURES: LOW RECRYSTALLIZATION
 FOSSILS: FOSSIL MOLDS
 SOME OOMOLDIC POROSITY, MODERATE TO POOR INDURATION.
- 13 - 14 WACKESTONE; YELLOWISH GRAY
 POROSITY: INTRAGRANULAR, MOLDIC
 GRAIN TYPE: BIOGENIC, CALCILUTITE, OOLITE
 35% ALLOCHEMICAL CONSTITUENTS
 GRAIN SIZE: CRYPTOCRYSTALLINE
 RANGE: CRYPTOCRYSTALLINE TO COARSE; MODERATE INDURATION
 CEMENT TYPE(S): CALCILUTITE MATRIX
 FOSSILS: MOLLUSKS, FOSSIL MOLDS
 POROSITY-10-15%.

- 14 - 16 PACKSTONE; YELLOWISH GRAY
15% POROSITY: INTRAGRANULAR, INTERGRANULAR
GRAIN TYPE: BIOGENIC, CALCILUTITE, OOLITE
70% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: MEDIUM; RANGE: CRYPTOCRYSTALLINE TO COARSE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
HIGH PERCENTAGE OF THE LIMESTONE IS RECRYSTALLIZED. SOME
PIECES OF THE LIMESTONE HAVE A SOMEWHAT FLAT SURFACE
COVERED WITH SPARRY CALCITE EITHER FORMED ON THE SURFACE OF
THE LIMESTONE OR WITHIN NEAR-SURFACE VOIDS AND SOLUTION
HOLES.
- 16 - 18 WACKESTONE; YELLOWISH GRAY
20% POROSITY: INTRAGRANULAR, VUGULAR, MOLDIC
GRAIN TYPE: BIOGENIC, CALCILUTITE, OOLITE
50% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: CRYPTOCRYSTALLINE
RANGE: CRYPTOCRYSTALLINE TO COARSE; GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
FOSSILS: MOLLUSKS, FOSSIL MOLDS
LARGE SHELL CASTS AND VOID SPACES COATED WITH SPARRY
CALCITE.
- 18 - 20 WACKESTONE; YELLOWISH GRAY
10% POROSITY: INTRAGRANULAR, MOLDIC
GRAIN TYPE: BIOGENIC, CALCILUTITE
25% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: CRYPTOCRYSTALLINE
RANGE: CRYPTOCRYSTALLINE TO COARSE; MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: QUARTZ SAND-15%
FOSSILS: MOLLUSKS, FOSSIL MOLDS
SOME CASTS SHOW SOME SPARRY CALCITE REPLACEMENT, QUARTZ
SAND ACCESSORY IS FINE GRAIN.
- 20 - 30 WACKESTONE; YELLOWISH GRAY
10% POROSITY: INTRAGRANULAR, MOLDIC
GRAIN TYPE: BIOGENIC, CALCILUTITE
50% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO MEDIUM
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
FOSSILS: MOLLUSKS, FOSSIL MOLDS
SOME CASTS SHOW SOME SPARRY CALCITE REPLACEMENT, SPARRY
CALCITE REPLACING MOLDS. NUMEROUS MOLLUSK MOLDS. AT
22-30, YELLOWISH GRAY WACKESTONE IS MOTTLED WITH GRAY
MUDSTONE (20% OF ROCK).
- 30 - 35 MUDSTONE; YELLOWISH GRAY
POROSITY: INTRAGRANULAR
GRAIN TYPE: CALCILUTITE
GRAIN SIZE: CRYPTOCRYSTALLINE; GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: QUARTZ SAND-15%

ALSO PRESENT IN INTERVAL (CORE IS GROUND UP IN THIS INTERVAL), GRAINSTONE (10% OF INTERVAL)-FINE TO MEDIUM GRAINS-95% ALLOCHEMICAL CONSTITUENT.

- 35 - 45 WACKESTONE; YELLOWISH GRAY
10% POROSITY: INTRAGRANULAR
GRAIN TYPE: CALCILUTITE, BIOGENIC, PELLET
15% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: CRYPTOCRYSTALLINE
RANGE: CRYPTOCRYSTALLINE TO MEDIUM; MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
FOSSILS: MOLLUSKS, FOSSIL MOLDS
- 45 - 50 MUDSTONE; YELLOWISH GRAY
POROSITY: INTRAGRANULAR
GRAIN TYPE: CALCILUTITE
GRAIN SIZE: CRYPTOCRYSTALLINE; GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: SPAR-05%, QUARTZ SAND-10%
FOSSILS: MOLLUSKS, FOSSIL MOLDS
SOME MOLDS INFILLED WITH SPARRY CALCITE. SAND ACCESSORY IS FINE GRAIN.
- 50 - 60 MUDSTONE; YELLOWISH GRAY
POROSITY: INTRAGRANULAR
GRAIN TYPE: CALCILUTITE, BIOGENIC
10% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: CRYPTOCRYSTALLINE
RANGE: CRYPTOCRYSTALLINE TO MEDIUM; GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: QUARTZ SAND-30%, SPAR-05%
FOSSILS: MOLLUSKS, FOSSIL MOLDS
SPARRY CALCITE INFILLS SOME MOLDS. SAND ACCESSORY IS FINE GRAIN.
- 60 - 65 MUDSTONE; YELLOWISH GRAY
POROSITY: INTRAGRANULAR, INTERGRANULAR
GRAIN TYPE: CALCILUTITE
GRAIN SIZE: CRYPTOCRYSTALLINE; MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: QUARTZ SAND-45%
SAND ACCESSORY IS FINE TO COARSE GRAIN, MODE: MEDIUM.
- 65 - 80 MUDSTONE; YELLOWISH GRAY
POROSITY: INTRAGRANULAR, INTERGRANULAR
GRAIN TYPE: BIOGENIC, CALCILUTITE
10% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: CRYPTOCRYSTALLINE
RANGE: CRYPTOCRYSTALLINE TO MEDIUM; GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: QUARTZ SAND-25%
OTHER FEATURES: MEDIUM RECRYSTALLIZATION
FOSSILS: MOLLUSKS, FOSSIL MOLDS
SAND ACCESSORY IS FINE GRAIN.

80 - 87 MUDSTONE; YELLOWISH GRAY
POROSITY: INTRAGRANULAR, INTERGRANULAR
GRAIN TYPE: CALCILUTITE
GRAIN SIZE: CRYPTOCRYSTALLINE; MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: QUARTZ SAND-15%
OTHER FEATURES: MEDIUM RECRYSTALLIZATION
FOSSILS: MOLLUSKS, FOSSIL MOLDS
SAND ACCESSORY IS FINE TO VERY COARSE, MODE: MEDIUM.
APPROXIMATELY 10% OF QUARTZ SAND IS LIGHT ORANGE/BROWN
90% IS COLORLESS.

87 - 103 SAND; VERY LIGHT GRAY
25% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO VERY COARSE
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY
UNCONSOLIDATED
ACCESSORY MINERALS: CLAY <5%
ALSO PRESENT IN QUARTZ SAND: PHOSPHATIC SAND, FINE
GRAIN-5%, AND LIMESTONE AND SHELL HAST-10%

103 TOTAL DEPTH

DLBS-5

LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FGS

WELL NUMBER: W-17790

COUNTY - DADE

TOTAL DEPTH: 118 FT.

LOCATION: T.52S R.39E S.04

SAMPLES - NONE

LAT = 25D 56M 36S

LON = 80D 26M 32S

COMPLETION DATE: 06/18/96

ELEVATION: 5 FT

OTHER TYPES OF LOGS AVAILABLE - NONE

OWNER/DRILLER: SOUTH FLORIDA WATER MANAGEMENT DISTRICT

WORKED BY: CINDY FISCHLER, SFWMD GEOPHY # 025000019 025-16 DEBS-5 PENNSUCO
FLA. PLANAR X 683110 STATE COORD. Y 585459 ACTUAL CORE FOOTAGE IS LESS
THAN INTERVAL GIVEN. EX. 0-3FT. CONSISTS OF ABOUT INCHES OF SAMPLE.

0 - . 121PCPC PLIOCENE-PLEISTOCENE

0 - 5 LIMESTONE; GRAYISH BROWN TO MODERATE GRAY

10% POROSITY: INTERGRANULAR, MOLDIC

GRAIN TYPE: CALCILUTITE, SKELETAL, CRYSTALS

50% ALLOCHEMICAL CONSTITUENTS

GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO GRAVEL

GOOD INDURATION

CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT

ACCESSORY MINERALS: QUARTZ SAND- 5%, SPAR-10%

ORGANICS: 2%

OTHER FEATURES: MEDIUM RECRYSTALLIZATION

FOSSILS: MOLLUSKS

GASTROPODS, CALCAREOUS SILT COATS LIMESTONE. SPARRY CALCITE

FILLS FRACTURES AND HAS REPLACED SOME ALLOCHEMS.

5 - 7 CLAY; DARK YELLOWISH BROWN TO OLIVE GRAY

5% POROSITY: INTERGRANULAR; MODERATE INDURATION

CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX

ORGANIC MATRIX

ACCESSORY MINERALS: PEAT-35%, LIMESTONE-10%, SHELL-15%

QUARTZ SAND- 3%

FOSSILS: MOLLUSKS

GASTROPODS, FEW PIECES OF LIMESTONE AS ABOVE AND LIMESTONE

FRAGMENTS IN THE PEATY CLAY.

7 - 12 LIMESTONE; YELLOWISH GRAY TO GRAYISH BROWN

10% POROSITY: INTERGRANULAR, MOLDIC, INTERCRYSTALLINE

GRAIN TYPE: SKELETAL, PELLET, BIOGENIC

70% ALLOCHEMICAL CONSTITUENTS

GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO GRAVEL

MODERATE INDURATION

CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT

ACCESSORY MINERALS: SPAR-30%

OTHER FEATURES: HIGH RECRYSTALLIZATION

FOSSILS: CORAL, MOLLUSKS

GASTROPODS, CLAM CAST. LITHOLOGY VARIES: RECRYSTALLIZED

CORAL; RECRYSTALLIZED PACKSTONE; PACKSTONE WITH CRYSTALLINE

MATRIX AND CHALKY ALLOCHEMS; AND CHALKY LIMESTONE.

CALCAREOUS SILT COATS PIECES. MANY PIECES APPEAR TO HAVE AN OOLITIC FABRIC.

- 12 - 15 LIMESTONE; YELLOWISH GRAY
10% POROSITY: INTERGRANULAR, MOLDIC, INTERCRYSTALLINE
GRAIN TYPE: SKELETAL, CRYSTALS, PELLET
70% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO GRAVEL
GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
ACCESSORY MINERALS: SPAR-50%
OTHER FEATURES: HIGH RECRYSTALLIZATION
FOSSILS: CORAL
LARGE DISSOLUTION VOIDS (PROBABLY BRYOZOAN MOLDS) FILLED OR COATED WITH DRUSY CALCITE AND MICRITE. OOLITIC FABRIC PRESENT IN SOME PIECES. MANY LARGE RECRYSTALLIZED SHELLS.
- 15 - 17 SILT; LIGHT OLIVE GRAY
POOR INDURATION
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX
ACCESSORY MINERALS: LIMESTONE-10%, SHELL-10%, CLAY-15%
QUARTZ SAND-20%
FOSSILS: MOLLUSKS, CORAL
- 17 - 27 LIMESTONE; YELLOWISH GRAY TO VERY LIGHT ORANGE
8% POROSITY: INTERGRANULAR, MOLDIC, INTERCRYSTALLINE
GRAIN TYPE: CALCILUTITE, SKELETAL, BIOGENIC
70% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO GRAVEL
GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
SEDIMENTARY STRUCTURES: MOTTLED
ACCESSORY MINERALS: SPAR-15%, QUARTZ SAND-25%
OTHER FEATURES: HIGH RECRYSTALLIZATION
FOSSILS: MOLLUSKS, BENTHIC FORAMINIFERA
LITHOLOGY VARIES: MORE CRYSTALLINE LIMESTONE MOTTLED WITH A SOFTER LESS CRYSTALLINE LIMESTONE WITH MOLDS OF ROOT TUBULES; AND A POORLY INDURATED SOFT SANDY LIMESTONE. RECRYSTALLIZED CLAM CAST.
- 27 - 33 LIMESTONE; YELLOWISH GRAY TO LIGHT GRAY
8% POROSITY: INTERGRANULAR, MOLDIC, INTERCRYSTALLINE
GRAIN TYPE: CALCILUTITE, SKELETAL, CRYSTALS
80% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO GRAVEL
GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
SEDIMENTARY STRUCTURES: MOTTLED
ACCESSORY MINERALS: SPAR-30%, QUARTZ SAND-15%
OTHER FEATURES: MEDIUM RECRYSTALLIZATION
FOSSILS: MOLLUSKS, BENTHIC FORAMINIFERA
GASTROPOD AND CLAM CAST AND MOLDS. HIGHLY MOLDIC MOTTLED WITH POSSIBLE ROOT TRACES AND BURROWS. MEDIUM TO HIGH RECRYSTALLIZATION.

- 33 - 35 LIMESTONE; YELLOWISH GRAY
8% POROSITY; INTERGRANULAR, MOLDIC
GRAIN TYPE: CALCILUTITE, SKELETAL, CRYSTALS
50% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO GRAVEL
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
ACCESSORY MINERALS: SPAR-35%, QUARTZ SAND-20%
OTHER FEATURES: MEDIUM RECRYSTALLIZATION
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS
SANDY MICROCRYSTALLINE MICRITE.
- 35 - 60 LIMESTONE; YELLOWISH GRAY TO WHITE
15% POROSITY; INTERGRANULAR, MOLDIC, VUGULAR
GRAIN TYPE: CALCILUTITE, SKELETAL, CRYSTALS
60% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO GRAVEL
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
ACCESSORY MINERALS: SPAR-20%, QUARTZ SAND-40%
OTHER FEATURES: LOW RECRYSTALLIZATION
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS
VERY SANDY LIMESTONE BORDERING TO A CALCAREOUS SANDSTONE.
LOWER PART OF CORE HAS ABUNDANT CLAM AND GASTROPOD MOLDS
AND CASE AND IS SLIGHTLY LESS SANDY. SAND IS FINE TO MEDIUM
GRAINED. INTERVAL BECOMES MORE RECRYSTALLIZED WITH DEPTH.
- 60 - 65 LIMESTONE; YELLOWISH GRAY TO WHITE
10% POROSITY; INTERGRANULAR, MOLDIC
GRAIN TYPE: CALCILUTITE, SKELETAL, CRYSTALS
50% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO GRAVEL
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
ACCESSORY MINERALS: SPAR-30%, QUARTZ SAND-40%
OTHER FEATURES: MEDIUM RECRYSTALLIZATION
FOSSILS: CORAL, BENTHIC FORAMINIFERA, MOLLUSKS
TRACE OF PHOSPHATE. SANDY LIMESTONE VARIES TO CALCAREOUS
SANDSTONE. CORAL IS RECRYSTALLIZED.
- 65 - 73 SAND; YELLOWISH GRAY
10% POROSITY; INTERGRANULAR, MOLDIC
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM
ROUNDNESS: ANGULAR TO SUB-ANGULAR; LOW SPHERICITY
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
ACCESSORY MINERALS: PHOSPHATIC SAND- 3%, SHELL- 3%
SPAR-20%, LIMESTONE-30%
FOSSILS: MOLLUSKS, CORAL, OSTRACODS, WORM TRACES
PHOSPHATE IS VERY FINE GRAINED. LITHOLOGY VARIES:
CALCAREOUS, PHOSPHATIC SANDSTONE (SANDY CONCRETIONS); SANDY
PHOSPHATIC LIMESTONE; MOLDIC SANDY LIMESTONE WITH MEDIUM
RECRYSTALLIZATION; RECRYSTALLIZED CORAL. TRACE OF PYRITE
AND HEAVY MINERALS.

- 73 - 80 LIMESTONE; YELLOWISH GRAY
 10% POROSITY: INTERGRANULAR, MOLDIC
 GRAIN TYPE: CALCILUTITE, SKELETAL, CRYSTALS
 70% ALLOCHEMICAL CONSTITUENTS
 GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO GRAVEL
 MODERATE INDURATION
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
 ACCESSORY MINERALS: SHELL-25%, QUARTZ SAND-25%, SPAR-25%
 PHOSPHATIC SAND-<1%
 OTHER FEATURES: MEDIUM RECRYSTALLIZATION
 FOSSILS: MOLLUSKS, BARNACLES, BRYOZOA
 SAND IS MEDIUM TO COARSE MODE. SHELLY, SANDY RECRYSTALLIZED
 LIMESTONE.
- 80 - 88 SHELL BED; WHITE TO LIGHT OLIVE GRAY
 15% POROSITY: INTERGRANULAR; UNCONSOLIDATED
 ACCESSORY MINERALS: LIMESTONE-30%
 FOSSILS: MOLLUSKS, BARNACLES, ECHINOID, BRYOZOA
 TRACE OF PYRITE AND PHOSPHATE. LIMESTONE IS SANDY, SHELLY
 AND MICROCRYSTALLINE. LESS LIMESTONE WITH DEPTH.
- 88 - 100 LIMESTONE; YELLOWISH GRAY TO LIGHT GRAY
 20% POROSITY: INTERGRANULAR, VUGULAR MOLDIC
 GRAIN TYPE: CALCILUTITE, SKELETAL
 80% ALLOCHEMICAL CONSTITUENTS
 GRAIN SIZE: COARSE, RANGE: FINE TO GRAVEL; POOR INDURATION
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
 ACCESSORY MINERALS: QUARTZ SAND-25%, SHELL-40%
 OTHER FEATURES: COQUINA, MEDIUM RECRYSTALLIZATION
 FOSSILS: MOLLUSKS, BRYOZOA, BARNACLES, CRUSTACEA, ECHINOID
 SANDY COQUINA. TRACE OF PHOSPHATE AND PYRITE.
- 100 - 118 SAND; YELLOWISH GRAY
 20% POROSITY: INTERGRANULAR
 GRAIN SIZE: MEDIUM; RANGE: FINE TO GRAVEL
 ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; LOW SPHERICITY
 POOR INDURATION
 CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX
 ACCESSORY MINERALS: PHOSPHATIC SAND- 5%, SHELL-25%
 FOSSILS: MOLLUSKS, ECHINOID, BARNACLES
 POORLY INDURATED SHELLY, PHOSPHATIC, CHALKY SAND. APPEARS
 TO GO FROM COQUINA AS ABOVE TO THE SAND. DUE TO THE
 CONDITION OF THE CORE I CANNOT TELL IF THIS WAS A SHARP OR
 GRADATIONAL CONTACT OR AT WHAT FOOTAGE IT TOOK PLACE.

118 TOTAL DEPTH

DLBS-6

LITHOLOGIC WELL LOG PRINTOUT

SOURCE - FGS

WELL NUMBER: W-17791

COUNTY - DADE

TOTAL DEPTH: 163 FT.

LOCATION: T.53S R.39E S.06 DD

SAMPLES - NONE

LAT = 25D 51M 51S

LON = 80D 29M 06S

COMPLETION DATE: 06/25/96

ELEVATION: 5 FT

OTHER TYPES OF LOGS AVAILABLE - NONE

OWNER/DRILLER: SOUTH FLORIDA WATER MANAGEMENT DISTRICT

WORKED BY: CINDY FISCHLER. COMPLETED OCTOBER 1999. 025-17 DEBS-6

SFWMD GEOPHY # 025000020 HIALEAH S.W. FLA. PLANAR X-009370

STATE COORD. Y 556629 ACTUAL CORE FOOTAGE IS LESS THAN INTERVAL GIVEN.

0 - 121 PCPC PLIOCENE-PLEISTOCENE

0 - 2 LIMESTONE; YELLOWISH GRAY

10% POROSITY: INTERGRANULAR

GRAIN TYPE: CALCILUTITE, SKELETAL, BIOGENIC

30% ALLOCHEMICAL CONSTITUENTS

GRAIN SIZE: MEDIUM, RANGE: FINE TO GRAVEL; POOR INDURATION

CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT

ACCESSORY MINERALS: CALCILUTITE-50%, SHELL-15%

ORGANICS- 5%

FOSSILS: CORAL

MANY FRESHWATER GASTROPODS. POORLY INDURATED CALCAREOUS MUD
WITH ORGANICS AND PIECES OF CORAL AND LIMESTONE.

2 - 4 SILT; YELLOWISH GRAY

POOR INDURATION

CEMENT TYPE(S): CALCILUTITE MATRIX

ACCESSORY MINERALS: SHELL-15%, ORGANICS-30%

OTHER FEATURES: CALCAREOUS

FOSSILS: PLANT REMAINS

MANY FRESHWATER GASTROPODS. CALCAREOUS, PEATY SILT.

4 - 12 LIMESTONE; YELLOWISH GRAY TO DARK YELLOWISH ORANGE

8% POROSITY: INTERGRANULAR, MOLDIC, VUGULAR

GRAIN TYPE: CALCILUTITE, SKELETAL, CRYSTALS

70% ALLOCHEMICAL CONSTITUENTS

GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO GRAVEL

MODERATE INDURATION

CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT

ACCESSORY MINERALS: SPAR-20%, SILT-30%, SHELL-10%

QUARTZ SAND-15%

OTHER FEATURES: CALCAREOUS, MEDIUM RECRYSTALLIZATION

FOSSILS: PLANT REMAINS

FRESHWATER GASTROPODS. SOME IRON STAINING. CALCAREOUS

PEATY SILT POORLY INDURATED AS ABOVE AND A SANDY

CRYSTALLINE LIMESTONE. SILT DECREASES WITH DEPTH TO <5%.

POROSITY INCREASES WITH DEPTH. MEDIUM TO HIGH

RECRYSTALLIZATION.

- 12 - 15 WACKESTONE; YELLOWISH GRAY TO WHITE
10% POROSITY: INTERGRANULAR, MOLDIC, VUGULAR
GRAIN TYPE: CALCILUTITE, SKELETAL, CRYSTALS
60% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO GRAVEL
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
ACCESSORY MINERALS: SPAR-15%, QUARTZ SAND-10%
OTHER FEATURES: MEDIUM RECRYSTALLIZATION
MANY RECRYSTALLIZED GASTROPODS. SOME PARTS ARE VERY SANDY
WHILE OTHERS HAVE LITTLE OR NO SAND. LUMPY DRUSY CALCITE
COATS SOME PIECES.
- 15 - 20 PACKSTONE; YELLOWISH GRAY TO WHITE
20% POROSITY: INTERGRANULAR, VUGULAR, MOLDIC
GRAIN TYPE: CALCILUTITE, PELLET, CRYSTALS
75% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO GRAVEL
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
ACCESSORY MINERALS: SPAR-15%, SHELL-10%
OTHER FEATURES: MEDIUM RECRYSTALLIZATION
FOSSILS: WORM TRACES, MOLLUSKS
PACKSTONE TO WACKESTONE. LUMPY DRUSY CALCITE OVER SOME
PIECES. MOST OF THE SHELLS HAVE DISSOLVED OR
RECRYSTALLIZED
- 20 - 26 WACKESTONE; YELLOWISH GRAY TO LIGHT GRAY
15% POROSITY: INTERGRANULAR, MOLDIC, VUGULAR
GRAIN TYPE: CALCILUTITE, SKELETAL, CRYSTALS
60% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO GRAVEL
GOOD INDURATION
CEMENT TYPE(S): SPARRY CALCITE CEMENT, CALCILUTITE MATRIX
ACCESSORY MINERALS: QUARTZ SAND- 3%, SPAR-15%
OTHER FEATURES: MEDIUM RECRYSTALLIZATION
FOSSILS: MOLLUSKS
HIGHLY MOLDIC CLAMS AND GASTROPODS. 24-26FT. IS MOTTLED.
- 26 - 28 LIMESTONE; WHITE TO LIGHT GRAY
20% POROSITY: INTERGRANULAR, VUGULAR, MOLDIC
GRAIN TYPE: CALCILUTITE, SKELETAL, BIOGENIC
60% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO GRAVEL
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: MOTTLED
ACCESSORY MINERALS: SPAR-15%
OTHER FEATURES: LOW RECRYSTALLIZATION
FOSSILS: BENTHIC FORAMINIFERA
MOLDIC WHITE LIMESTONE MOTTLED WITH A MORE INDURATED GRAY
LIMESTONE. LOW TO MEDIUM RECRYSTALLIZATION. VERY FINELY
GROUND SHELL FRAGMENTS IN THE WHITE LIMESTONE.

- 28 - 37 LIMESTONE; WHITE

20% POROSITY: INTERGRANULAR, VUGULAR, MOLDIC
 GRAIN TYPE: CALCILUTITE, SKELETAL, BIOGENIC
 70% ALLOCHEMICAL CONSTITUENTS
 GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO GRAVEL
 MODERATE INDURATION
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
 ACCESSORY MINERALS: SPAR-10%, QUARTZ SAND- 3%, SHELL- 3%
 OTHER FEATURES: MEDIUM RECRYSTALLIZATION
 FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, BRYOZOA
 MOLDIC WACKESTONE WITH AREAS OF POORLY INDURATED CHALKY
 LIMESTONE AND A HIGHLY MOLDIC LIMESTONE
 (PACKSTONE-WACKSTONE) WITH SOME SAND AND MORE
 RECRYSTALLIZATION. LARGE SOLUTION VOIDS PROBABLY FROM
 BRYOZOAN. 35-37FT. INTERVAL IS FRAGMENTED INTO SMALL
 PIECES.

37 - 40 WACKESTONE; WHITE

20% POROSITY: INTERGRANULAR, VUGULAR, MOLDIC
 GRAIN TYPE: CALCILUTITE, SKELETAL, CRYSTALS
 60% ALLOCHEMICAL CONSTITUENTS
 GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO GRAVEL
 MODERATE INDURATION
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
 ACCESSORY MINERALS: SPAR-15%, QUARTZ SAND- 2%
 OTHER FEATURES: MEDIUM RECRYSTALLIZATION
 FOSSILS: MOLLUSKS
 ABUNDANT GASTROPOD MOLDS. MANY OF THE ALLOCHEMS ARE
 RECRYSTALLIZED. SOLUTION VOIDS ARE PRESENT. SOME CALCAREOUS
 SANDY POCKETS PRESENT.

40 - 43 LIMESTONE; WHITE TO YELLOWISH GRAY

20% POROSITY: INTERGRANULAR, MOLDIC, VUGULAR
 GRAIN TYPE: CALCILUTITE, SKELETAL, CRYSTALS
 75% ALLOCHEMICAL CONSTITUENTS
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO GRAVEL
 MODERATE INDURATION
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
 ACCESSORY MINERALS: SPAR-15%, QUARTZ SAND-40%
 OTHER FEATURES: MEDIUM RECRYSTALLIZATION
 FOSSILS: MOLLUSKS
 GASTROPOD MOLDS. SANDY, MOLDIC LIMESTONE WITH VARYING
 AMOUNTS OF RECRYSTALLIZATION. DRUSY CALCITE.

43 - 45 LIMESTONE; YELLOWISH GRAY TO WHITE

10% POROSITY: INTERGRANULAR, MOLDIC, VUGULAR
 GRAIN TYPE: CALCILUTITE, SKELETAL, CRYSTALS
 75% ALLOCHEMICAL CONSTITUENTS
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO GRAVEL
 MODERATE INDURATION
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
 ACCESSORY MINERALS: SPAR-25%, QUARTZ SAND-25%, SHELL-2%
 OTHER FEATURES: MEDIUM RECRYSTALLIZATION
 FOSSILS: MOLLUSKS, BRYOZOA
 SAMPLE IS FRAGMENTED INTO SMALL PIECES. MEDIUM TO HIGH
 RECRYSTALLIZATION.

- 45 - 50 LIMESTONE; YELLOWISH GRAY
20% POROSITY: INTERGRANULAR, MOLDIC, VUGULAR
GRAIN TYPE: CALCILUTITE, SKELETAL, CRYSTALS
80% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO GRAVEL
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
ACCESSORY MINERALS: SPAR-20%, QUARTZ SAND-30%, SHELL-25%
OTHER FEATURES: MEDIUM RECRYSTALLIZATION
MICROCOQUINA. SANDY SHELLY LIMESTONE, SHELL IS VERY FINELY GROUND.
- 50 - 53 WACKESTONE; YELLOWISH GRAY
10% POROSITY: INTERGRANULAR, MOLDIC, PIN POINT VUGS
GRAIN TYPE: CALCILUTITE, SKELETAL, CRYSTALS
70% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO GRAVEL
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
ACCESSORY MINERALS: SPAR-25%, QUARTZ SAND-15%, SHELL-20%
OTHER FEATURES: MEDIUM RECRYSTALLIZATION
FOSSILS: MOLLUSKS
MOLDIC, SANDY LIMESTONE WITH LARGE MOLLUSK FRAGMENTS (UP TO 2X2CM) MANY OF THE ALLOCHEMS ARE RECRYSTALLIZED. % SAND VARIES FROM ABOUT 3-40%.
- 53 - 57 NO SAMPLES
- 57 - 60 LIMESTONE; LIGHT OLIVE GRAY TO YELLOWISH GRAY
15% POROSITY: INTERGRANULAR, MOLDIC, PIN POINT VUGS
GRAIN TYPE: CALCILUTITE, SKELETAL, CRYSTALS
75% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO GRAVEL
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
SEDIMENTARY STRUCTURES: MOTTLED
ACCESSORY MINERALS: SPAR-30%, QUARTZ SAND-25%, SHELL-20%
OTHER FEATURES: MEDIUM RECRYSTALLIZATION
FOSSILS: MOLLUSKS, BRYOZOA
GASTROPODS. LIGHT OLIVE GRAY WACKESTONE MOST OF THE ALLOCHEMS ARE RECRYSTALLIZED IT IS LESS MOLDIC THAN THE YELLOWISH GRAY LIMESTONE WHICH VARIES FROM A SANDY COQUINA TO A MOLDIC RECRYSTALLIZED WACKESTONE-PACKSTONE.
- 60 - 65 PACKSTONE; YELLOWISH GRAY TO MODERATE LIGHT GRAY
20% POROSITY: INTERGRANULAR, MOLDIC, VUGULAR
GRAIN TYPE: CALCILUTITE, SKELETAL
85% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: COARSE; RANGE: VERY FINE TO GRAVEL
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
ACCESSORY MINERALS: QUARTZ SAND-25%, SHELL-40%
OTHER FEATURES: MEDIUM RECRYSTALLIZATION
FOSSILS: CORAL, ECHINOID, MOLLUSKS, WORM TRACES

BENTHIC FORAMINIFERA

GASTROPODS. WIDE RANGE OF SHELL SIZES - FROM FINELY GROUND TO ABOUT 3CM. SANDY, SHELLY, CORALLINE PACKSTONE.

65 - 68 LIMESTONE; MODERATE LIGHT GRAY TO GRAYISH BROWN
15% POROSITY: INTERGRANULAR, MOLDIC, VUGULAR
GRAIN TYPE: CALCILUTITE, SKELETAL
90% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO GRAVEL
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
SEDIMENTARY STRUCTURES: MOTTLED
ACCESSORY MINERALS: SHELL-50%, QUARTZ SAND-30%
OTHER FEATURES: MEDIUM RECRYSTALLIZATION, COQUINA
FOSSILS: BRYOZOA, MOLLUSKS, BENTHIC FORAMINIFERA, CORAL
BARNACLES
SAND IS MEDIUM TO COARSE GRAINED. SHELL SIZE VARIES
PHOSPHATE INDICATOR POSITIVE ON GRAY LIMESTONE.

68 - 93 SHELL BED; VERY LIGHT GRAY
20% POROSITY: INTERGRANULAR; POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: QUARTZ SAND-35%
FOSSILS: MOLLUSKS, BENTHIC FORAMINIFERA, BARNACLES
BRYOZOA, ECHINOID
GASTROPODS. 25% SANDY, SHELLY LIMESTONE TO CALCAREOUS
SHELLY SANDSTONE WITH MEDIUM RECRYSTALLIZATION. TRACE OF
PHOSPHATE. GRAVEL AND SAND SIZE AT ABOUT 83FT. LIMESTONE
DECREASES WITH DEPTH TO ABOUT 5%.

93 - 110 SAND; YELLOWISH GRAY
20% POROSITY: INTERGRANULAR
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; LOW SPHERICITY
POOR INDURATION
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX
ACCESSORY MINERALS: SHELL- 5%, MICA-<1%
PHOSPHATIC SAND- 2%
FOSSILS: BARNACLES, MOLLUSKS
SMALL AMOUNT OF IRON STAINING FROM 103-110FT. MORE
CALCAREOUS AND ABOUT 35% CLAY.

110 - 118 SANDSTONE; YELLOWISH GRAY
20% POROSITY: INTERGRANULAR, MOLDIC
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE
LOW SPHERICITY; MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
ACCESSORY MINERALS: SHELL-45%, MICA-<1%
PHOSPHATIC SAND-<2%, PHOSPHATIC GRAVEL-<1%
OTHER FEATURES: COQUINA, MEDIUM RECRYSTALLIZATION
FOSSILS: BARNACLES, MOLLUSKS, BRYOZOA, ECHINOID
LARGE AMOUNT OF LOOSE SAND AND SHELL PRESENT. SCATTERED
SMALL CLAY BALLS. LOOSE SAND DECREASES WITH DEPTH.

118 - 122 SANDSTONE; YELLOWISH GRAY TO MODERATE LIGHT GRAY

20% POROSITY: INTERGRANULAR, MOLDIC
 GRAIN SIZE: FINE; RANGE: FINE TO VERY COARSE
 LOW SPHERICITY; MODERATE INDURATION
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
 ACCESSORY MINERALS: SHELL-45%, MICA-<1%
 PHOSPHATIC SAND- 3%, PHOSPHATIC GRAVEL- 1%
 OTHER FEATURES: COQUINA, MEDIUM RECRYSTALLIZATION
 FOSSILS: MOLLUSKS, BARNACLES, BRYOZOA
 BENTHIC FORAMINIFERA, WORM TRACES
 GASTROPODS. LITHOLOGY VARIES: SHELLY SANDSTONE (FINER
 GRAINED THAN ABOVE) AND A MEDIUM GRAY SANDY RECRYSTALLIZED
 COQUINA. LOOSE SMOOTH DISK SHAPED GRAVEL AND RECRYSTALLIZED
 CLUSTERS OF PELLETS OR PELOIDS.

122 - 140 SANDSTONE; YELLOWISH GRAY
 20% POROSITY: INTERGRANULAR, MOLDIC
 GRAIN SIZE: FINE; RANGE: VERY FINE TO COARSE
 LOW SPHERICITY; MODERATE INDURATION
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
 CLAY MATRIX
 ACCESSORY MINERALS: SHELL-30%, PHOSPHATIC SAND- 5%
 MICA-<1%
 OTHER FEATURES: COQUINA
 FOSSILS: BRYOZOA, BARNACLES, MOLLUSKS, CRUSTACEA
 GASTROPOD AND CLAM MOLDS AND CAST. SHELLS MUCH LARGER THAN
 ABOVE. MANY 3-5CM. PHOSPHATE VERY FINE GRAINED.

140 - 157 SHELL BED; YELLOWISH GRAY
 20% POROSITY: INTERGRANULAR, MOLDIC; UNCONSOLIDATED
 CEMENT TYPE(S): CALCILUTITE MATRIX
 ACCESSORY MINERALS: PHOSPHATIC SAND- 5%, LIMESTONE- 3%
 FOSSILS: BARNACLES, MOLLUSKS, ECHINOID, WORM TRACES
 CRUSTACEA
 BRYOZOA. ABOUT 35% OF SAMPLE IS PHOSPHATIC SANDSTONE AS
 ABOVE. TRACE OF SMOOTH DISK SHAPED QUARTZ GRAVEL. 15% LOOSE
 SAND IS COARSE TO GRAVEL SIZE, SMOOTH AND ROUNDED. SAND IN
 THE SANDSTONE IS MUCH FINER GRAINED.

157 - 163 SAND; YELLOWISH GRAY
 20% POROSITY: INTERGRANULAR, MOLDIC
 GRAIN SIZE: MEDIUM; RANGE: FINE TO GRANULE
 ROUNDNESS: SUB-ANGULAR TO ROUNDED; LOW SPHERICITY
 POOR INDURATION
 CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX
 ACCESSORY MINERALS: PHOSPHATIC SAND-15%, SHELL- 8%
 FOSSILS: MOLLUSKS, BARNACLES, ECHINOID, CRUSTACEA

163 TOTAL DEPTH

DLBS-9**LITHOLOGIC WELL LOG PRINTOUT****SOURCE - FGS**

WELL NUMBER: W-17794

COUNTY - DADE

TOTAL DEPTH: 178 FT.

LOCATION: T.54S R.38E S.11 DD

SAMPLES - NONE

LAT = 25D 44M 51S

LON = 80D 29M 53S

COMPLETION DATE: 07/25/96

ELEVATION: 5 FT

OTHER TYPES OF LOGS AVAILABLE - NONE

OWNER/DRILLER: SOUTH FLORIDA WATER MANAGEMENT DISTRICT

WORKED BY: CINDY FISCHLER, 025-20 DLBS-9 SFWMD GEOPHY # 025080023
SOUTH MIAMI NW FLA PLANAR X 665208 STATE COORD. Y 874218 ACTUAL FOOTAGE
IS LESS THAN INTERVAL GIVEN. COMPLETED OCT. 1999

0. -172 . 121PCPC PLIOCENE-PLEISTOCENE
172. - . 122HTRN HAWTHORN GROUP

0 - 1 LIMESTONE; YELLOWISH GRAY
15% POROSITY: INTERGRANULAR, PIN POINT VUGS, MOLDIC
GRAIN TYPE: CALCILUTITE, SKELETAL, CRYSTALS
60% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO GRANULE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
ACCESSORY MINERALS: QUARTZ SAND- 5%, SPAR- 8%
OTHER FEATURES: LOW RECRYSTALLIZATION
FOSSILS: OOLITES

- 1 - 3 PEAT; GREENISH BLACK
15% POROSITY: INTERGRANULAR, PIN POINT VUGS, MOLDIC
MODERATE INDURATION
CEMENT TYPE(S): ORGANIC MATRIX, CLAY MATRIX
ACCESSORY MINERALS: SHELL-20%
FOSSILS: MOLLUSKS
MANY FRESHWATER GASTROPODS.

- 3 - 5 LIMESTONE; VERY LIGHT ORANGE TO GRAYISH BROWN
10% POROSITY: INTERGRANULAR, MOLDIC, VUGULAR
GRAIN TYPE: CALCILUTITE, OOLITE CLAST, CRYSTALS
70% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
FOSSILS: OOLITES, PLANT REMAINS
ABOUT 50% OF INTERVAL IS PEAT AS ABOVE. LIMESTONE IS COATED
WITH PEAT.

- 5 - 9 LIMESTONE; GRAYISH BROWN
20% POROSITY: INTERGRANULAR, VUGULAR, MOLDIC
GRAIN TYPE: CALCILUTITE, OOLITE CLAST, CRYSTALS
80% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM
MODERATE INDURATION

CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
 ACCESSORY MINERALS: QUARTZ SAND- 5%, SILT-15%
 OTHER FEATURES: LOW RECRYSTALLIZATION
 FOSSILS: OOLITES, PLANT REMAINS
 LIMESTONE IS COATED WITH SANDY SILT. LARGE SOLUTION VOIDS
 PRESENT. SILT INCREASES WITH DEPTH TO ABOUT 20%.

9 - 13 LIMESTONE; YELLOWISH GRAY TO GRAYISH ORANGE
 10% POROSITY: INTERGRANULAR, PIN POINT VUGS, MOLDIC
 GRAIN TYPE: CALCILUTITE, OOLITE CLAST, SKELETAL
 65% ALLOCHEMICAL CONSTITUENTS
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO GRAVEL
 MODERATE INDURATION
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
 IRON CEMENT
 SEDIMENTARY STRUCTURES: MOTTLED
 OTHER FEATURES: LOW RECRYSTALLIZATION
 FOSSILS: OOLITES, MOLLUSKS, BENTHIC FORAMINIFERA
 PLANT REMAINS
 SOME IRON STAINING. SOLUTION VOIDS ARE PRESENT. LITHOLOGY
 VARIES: SOME OF THE LIMESTONE IS SANDY WITH OOLITIC
 TEXTURE; IRON STAINED LIMESTONE IS MORE RECRYSTALLIZED AND
 LESS OOLITIC.

13 - 15 WACKESTONE; VERY LIGHT ORANGE
 5% POROSITY: INTERGRANULAR
 GRAIN TYPE: CALCILUTITE, SKELETAL, CRYSTALS
 45% ALLOCHEMICAL CONSTITUENTS
 GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO GRANULE
 GOOD INDURATION
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
 ACCESSORY MINERALS: SPAR-10%
 OTHER FEATURES: MEDIUM RECRYSTALLIZATION
 FOSSILS: BENTHIC FORAMINIFERA
 MANY OF THE ALLOCHEMS ARE RECRYSTALLIZED CLAM AND GASTROPOD
 CAST.

15 - 35 LIMESTONE; WHITE TO YELLOWISH GRAY
 10% POROSITY: INTERGRANULAR, VUGULAR, MOLDIC
 GRAIN TYPE: CALCILUTITE, SKELETAL CAST, PELLET
 40% ALLOCHEMICAL CONSTITUENTS
 GRAIN SIZE: MEDIUM; RANGE: CRYPTOCRYSTALLINE TO GRANULE
 MODERATE INDURATION
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
 ACCESSORY MINERALS: SPAR-20%
 OTHER FEATURES: LOW RECRYSTALLIZATION
 FOSSILS: MOLLUSKS, CRUSTACEA
 GASTROPOD AND CLAM CAST. DRUSY CALCITE COATING ON SOME OF
 THE PIECES. MEDIUM RECRYSTALLIZATION. FEW PIECES SPOTTED
 WITH VERY FINE BLACK MATERIAL IN THE MATRIX MAY BE ORGANICS
 OR IRON SULFIDE. HIGHLY MOLDIC TOWARD BOTTOM.

35 - 43 WACKESTONE; WHITE
 20% POROSITY: INTERGRANULAR, MOLDIC
 GRAIN TYPE: CALCILUTITE, SKELETAL, BIOGENIC

70% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: FINE; RANGE: CRYPTOCRYSTALLINE TO GRAVEL
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
ACCESSORY MINERALS: SPAR- 5%, QUARTZ SAND-<5%
FOSSILS: MOLLUSKS, BENTHIC FORAMINIFERA, OSTRACODS
MILIOLIDS, CRUSTACEA
CLAM AND GASTROPOD CAST AND MOLDS. MEDIUM TO POOR
INDURATION. ABOUT 5% SHELL FRAGMENTS SOME ARE
RECRYSTALLIZED.

- 43 - 50 WACKESTONE; YELLOWISH GRAY
10% POROSITY: INTERGRANULAR, MOLDIC, VUGULAR
GRAIN TYPE: CALCILUTITE, SKELTAL CAST, CRYSTALS
70% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: COARSE; RANGE: MICROCRYSTALLINE TO GRAVEL
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
ACCESSORY MINERALS: SPAR- 5%
OTHER FEATURES: MEDIUM RECRYSTALLIZATION
FOSSILS: MOLLUSKS, WORM TRACES
ABUNDANT CLAM AND GASTROPOD MOLDS. INCREASE IN
RECRYSTALLIZATION TOWARD BOTTOM ABOUT 15% SPAR. NOT QUITE
AS MOLDIC TOWARD BOTTOM.
- 50 - 57 LIMESTONE; YELLOWISH GRAY
10% POROSITY: INTERGRANULAR, MOLDIC, VUGULAR
GRAIN TYPE: CALCILUTITE CRYSTALS, SKELETAL
60% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: COARSE; RANGE: MICROCRYSTALLINE TO GRAVEL
GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
ACCESSORY MINERALS: SPAR-15%, QUARTZ SAND-40%, SHELL-15%
OTHER FEATURES: MEDIUM RECRYSTALLIZATION
FOSSILS: MOLLUSKS, ECHINOID, BARNACLES
LITHOLOGY VARIES: SANDY, SHELLY LIMESTONE TO CALCAREOUS
SHELLY SANDSTONE. SAND IS PREDOMINANTLY MEDIUM TO COARSE
GRAINED. FEW PIECES APPEAR TO BE SANDY CONCRETIONS - THIS
SAND IS FINE GRAINED. LOOSE SHELL FRAGMENTS TOWARD BOTTOM.
- 57 - 80 SHELL BED; MODERATE LIGHT GRAY TO LIGHT GRAY
30% POROSITY: INTERGRANULAR; UNCONSOLIDATED
ACCESSORY MINERALS: LIMESTONE-15%, SPAR- 5%
FOSSILS: MOLLUSKS, BARNACLES
GASTROPODS. SHELL FRAGMENTS ARE LARGE UP TO 5CM. LARGE
BARNACLES ARE PRESENT (1CM).
- 80 - 93 SHELL BED; YELLOWISH GRAY TO LIGHT OLIVE GRAY
30% POROSITY: INTERGRANULAR; POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: QUARTZ SAND-30%, PHOSPHATIC SAND- 3%
FOSSILS: MOLLUSKS, BARNACLES, ECHINOID, BRYOZOA
GASTROPODS. SHELL FRAGMENTS ARE SMALLER THAN PREVIOUS. SAND
IS POORLY SORTED. 70% OF INTERVAL IS LOOSE SHELL BED
REMAINING PART IS SHELL, SAND, AND CALCILUTITE WITH MEDIUM

INDURATION.

- 93 - 101 LIMESTONE; YELLOWISH GRAY
20% POROSITY; INTERGRANULAR, MOLDIC
GRAIN TYPE: CALCILUTITE, SKELETAL, SKELTAL CAST
95% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO GRAVEL
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: QUARTZ SAND-35%, PHOSPHATIC SAND- 3%
SHELL-50%
OTHER FEATURES: LOW RECRYSTALLIZATION
FOSSILS: MOLLUSKS, ECHINOID, BENTHIC FORAMINIFERA, BRYOZOA
BARNACLES
GASTROPOD AND CLAM CAST. MOST SHELL MATERIAL IS FINELY
GROUND. ABOUT 50% OF INTERVAL IS LOOSE SHELL FRAGMENTS FROM
97-101FT.
- 101 - 130 SHELL BED; YELLOWISH GRAY TO MODERATE LIGHT GRAY
UNCONSOLIDATED
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: LIMESTONE-15%, QUARTZ SAND-10%
FOSSILS: MOLLUSKS, ECHINOID, BARNACLES, BRYOZOA
GASTROPODS, MANY TURRITELLA. LIMESTONE IS VERY SANDY AND
SHELLY "COQUINA LIKE" LIMESTONE DECREASES TO A TRACE
TOWARD BOTTOM. ABOUT 10% SHELLY, CALCAREOUS SANDSTONE WITH
POOR INDURATION.
- 130 - 132 LIMESTONE; YELLOWISH GRAY
25% POROSITY; INTERGRANULAR
GRAIN TYPE: CALCILUTITE, SKELETAL
80% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: VERY COARSE; RANGE: MICROCRYSTALLINE TO GRAVEL
POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX
ACCESSORY MINERALS: SILT-10%, SHELL-35%, QUARTZ SAND-30%
PHOSPHATIC SAND-<2%
FOSSILS: MOLLUSKS, ECHINOID, BARNACLES
GASTROPODS.
- 132 - 145 LIMESTONE; YELLOWISH GRAY
20% POROSITY; INTERGRANULAR, MOLDIC
GRAIN TYPE: CALCILUTITE, SKELETAL, CRYSTALS
80% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: VERY COARSE; RANGE: MICROCRYSTALLINE TO GRAVEL
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: SHELL-30%, QUARTZ SAND-40%
PHOSPHATIC SAND-<2%
OTHER FEATURES: LOW RECRYSTALLIZATION
FOSSILS: MOLLUSKS, CORAL, WORM TRACES
BENTHIC FORAMINIFERA, BRYOZOA
TURRITELLA MOLDS AND OTHER VERY LARGE MOLDS. LITHOLOGY
VARIES: SHELLY, SANDY LIMESTONE TO SHELLY, CALCAREOUS
SANDSTONE. SOME PARTS OF THIS INTERVAL ARE "COQUINA LIKE".

MANY WORM TRACES. POSSIBLE STORM DEPOSIT. POORLY SORTED.

145 - 172 SHELL BED; VERY LIGHT ORANGE TO YELLOWISH GRAY
UNCONSOLIDATED
FOSSILS: MOLLUSKS, BARNACLES, BRYOZOA, ECHINOID
GASTROPODS. 10-15% OF INTERVAL IS SMALL PIECES OF
PHOSPHATIC, CALCAREOUS SANDSTONE. SANDSTONE DECREASES WITH
DEPTH.

172 - 175 SAND; YELLOWISH GRAY
20% POROSITY: INTERGRANULAR
GRAIN SIZE: COARSE; RANGE: FINE TO GRAVEL
ROUNDNESS: SUB-ROUNDED TO ROUNDED; MEDIUM SPHERICITY
POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX
ACCESSORY MINERALS: SHELL-35%, PHOSPHATIC SAND- 2%
SILT-15%
FOSSILS: MOLLUSKS, BARNACLES, BRYOZOA, ECHINOID
SHELL ENCRUSTED WITH BRYOZOAN.

175 TOTAL DEPTH

DRAFT

DLBS-10**LITHOLOGIC WELL LOG PRINTOUT**

SOURCE - FGS

WELL NUMBER: W-17795

COUNTY - DADE

TOTAL DEPTH: 113 FT.

LOCATION: T.53S R.39E S.13 DB

12 SAMPLES FROM 0 TO 113 FT.

LAT = 25D 50M 05S

LON = 80D 29M 03S

COMPLETION DATE: 07/31/96

ELEVATION: 95 FT

OTHER TYPES OF LOGS AVAILABLE - NONE

OWNER/DRILLER: OWNER ?/SFWMD, WELL ID# 025-21, WELL NAME: DLBS-10

WORKED BY: HOLLY K. WILLIAMS, FLORIDA GEOLOGICAL SURVEY, 9/29/99
ALL SAMPLES ARE CORE. ACTUAL CORE LENGTH IS ABOUT 1/3 OF THAT
MARKED AND DESCRIBED.

0 - 87. 121PCPC PLIOCENE-PLEISTOCENE

87. - . 122HTRN HAWTHORN GROUP

87. - . 122PCRV PEACE RIVER FM.

0 - 3 PACKSTONE; YELLOWISH GRAY

10% POROSITY: INTRAGRANULAR, INTERGRANULAR

GRAIN TYPE: CALCILUTITE, BIOGENIC

60% ALLOCHEMICAL CONSTITUENTS

GRAIN SIZE: MEDIUM; RANGE: CRYPTOCRYSTALLINE TO COARSE

CEMENT TYPE(S): CALCILUTITE-MATRIX

ACCESSORY MINERALS: QUARTZ SAND-05%, CLAY-15%

INDURATION IS POOR TO MODERATE.

3 - 8 MUDSTONE; YELLOWISH GRAY TO GRAYISH ORANGE

POROSITY: INTRAGRANULAR, INTERGRANULAR

GRAIN TYPE: CALCILUTITE; 10% ALLOCHEMICAL CONSTITUENTS

GRAIN SIZE: CRYPTOCRYSTALLINE

RANGE: CRYPTOCRYSTALLINE TO COARSE; MODERATE INDURATION

CEMENT TYPE(S): CALCILUTITE MATRIX

ACCESSORY MINERALS: QUARTZ SAND-30%

LIMESTONE THAT IS GREYISH ORANGE IS EVIDENCE OF EXPOSURE.

SAND ACCESSORY IS MEDIUM TO COARSE. 3-5' IS MORE BROKEN
UP THAN AT 5-8'.

8 - 20 PACKSTONE; YELLOWISH GRAY

20% POROSITY: INTRAGRANULAR, INTERGRANULAR, VUGULAR

GRAIN TYPE: CALCILUTITE, BIOGENIC, OOLITE

75% ALLOCHEMICAL CONSTITUENTS

GRAIN SIZE: MEDIUM

RANGE: CRYPTOCRYSTALLINE TO VERY COARSE

MODERATE INDURATION

CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT

ACCESSORY MINERALS: QUARTZ SAND-05%

OTHER FEATURES: HIGH RECRYSTALLIZATION

20 - 23 MUDSTONE; VERY LIGHT GRAY TO YELLOWISH GRAY

POROSITY: INTRAGRANULAR, MOLDIC

GRAIN TYPE: CALCILUTITE, BIOGENIC, OOLITE

05% ALLOCHEMICAL CONSTITUENTS

GRAIN SIZE: CRYPTOCRYSTALLINE
RANGE: CRYPTOCRYSTALLINE TO COARSE; MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: CLAY-15%
FOSSILS: MOLLUSKS, FOSSIL MOLDS
VERY LITTLE OOMOLDIC POROSITY. MOST MOLDS ARE FROM MOLLUSKS.

- 23 - 30 MUDSTONE; YELLOWISH GRAY
POROSITY: INTRAGRANULAR, MOLDIC
GRAIN TYPE: CALCILUTITE, BIOGENIC, OOLITE
10% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: CRYPTOCRYSTALLINE
RANGE: CRYPTOCRYSTALLINE TO MEDIUM; GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: SPAR-05%
FOSSILS: MOLLUSKS, FOSSIL MOLDS
NUMEROUS MOLDS AND CASTS. 27-30' IS BROKEN UP, SOME OF WHICH HAS UNDERGONE VERY LITTLE DOLOMITIZATION. VERY LITTLE OOMOLDIC POROSITY.
- 30 - 45 WACKESTONE; YELLOWISH GRAY
10% POROSITY: INTRAGRANULAR, MOLDIC, TUBULAR
GRAIN TYPE: CALCILUTITE, BIOGENIC
15% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: CRYPTOCRYSTALLINE
RANGE: CRYPTOCRYSTALLINE TO MEDIUM; MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
OTHER FEATURES: MEDIUM RECRYSTALLIZATION
FOSSILS: MOLLUSKS, FOSSIL MOLDS
NUMEROUS MOLLUSK MOLDS AND CASTS. SPARRY CALCITE GROWTH ON MANY CASTS AND MOLDS AND REPLACING SOME MOLDS.
- 45 - 65 WACKESTONE; WHITE TO YELLOWISH GRAY
15% POROSITY: INTRAGRANULAR, MOLDIC
GRAIN TYPE: CALCILUTITE, BIOGENIC
25% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: CRYPTOCRYSTALLINE
RANGE: CRYPTOCRYSTALLINE TO MEDIUM; MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: QUARTZ SAND-35%, SPAR-05%
OTHER FEATURES: LOW RECRYSTALLIZATION
FOSSILS: MOLLUSKS, FOSSIL MOLDS
SAND ACCESSORY IS FINE GRAIN. SOME MOLLUSK MOLDS AND CASTS COATED WITH SPARRY CALCITE. 57-60' IS MODERATELY TO HIGHLY RECRYSTALLIZED.
- 65 - 73 SHELL BED; YELLOWISH GRAY TO VERY LIGHT ORANGE
20% POROSITY: INTERGRANULAR
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
ACCESSORY MINERALS: CALCILUTITE-15%, QUARTZ SAND-05%
OTHER FEATURES: HIGH RECRYSTALLIZATION
FOSSILS: MOLLUSKS
SHELLS HAVE BEEN REPLACED BY SPARRY CALCITE AND ARE POORLY INDURATED TO UNCONSOLIDATED.

- 73 - 75 MUDSTONE; YELLOWISH GRAY
POROSITY: INTRAGRANULAR, MOLDIC
GRAIN TYPE: CALCILUTITE, BIOGENIC
10% ALLOCHEMICAL CONSTITUENTS
GRAIN SIZE: CRYPTOCRYSTALLINE
RANGE: CRYPTOCRYSTALLINE TO MEDIUM; GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: QUARTZ SAND-25%
OTHER FEATURES: HIGH RECRYSTALLIZATION
FOSSILS: MOLLUSKS, FOSSIL MOLDS
SAND ACCESSORY IS FINE GRAIN.
- 75 - 78 SAND; YELLOWISH GRAY TO LIGHT OLIVE GRAY
GRAIN SIZE: FINE
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY
POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
FOSSILS: MOLLUSKS
THIS INTERVAL IS POORLY INDURATED QUARTZ SAND-50%, AND
CARBONATE SAND-50%. THE CARBONATE SAND IS MEDIUM GRAIN.
- 78 - 87 MUDSTONE; YELLOWISH GRAY TO LIGHT OLIVE GRAY
POROSITY: INTRAGRANULAR, MOLDIC
GRAIN TYPE: CALCILUTITE
GRAIN SIZE: CRYPTOCRYSTALLINE; POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX
ACCESSORY MINERALS: CLAY-20%, QUARTZ SAND-20%
FOSSILS: MOLLUSKS, FOSSIL MOLDS
SAND ACCESSORY IS FINE TO COARSE, MODE: FINE. 85-87 IS
POORLY TO MODERATELY INDURATED.
- 87 - 113 SAND; YELLOWISH GRAY TO LIGHT OLIVE GRAY
15% POROSITY: INTRAGRANULAR, INTERGRANULAR
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; MEDIUM SPHERICITY
POOR INDURATION
CEMENT TYPE(S): CLAY MATRIX
ACCESSORY MINERALS: CLAY-20%, PHOSPHATIC SAND-05%
FOSSILS: MOLLUSKS, BRYOZOA
95-113' HAS 10% CLAY.
- 113 TOTAL DEPTH